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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,811	01/29/2004	Alexander V. Drynkin	5092	5550

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EXAMINER
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BRAHAN, THOMAS J

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/767,811

Applicant(s)

DRYNKIN ET AL.

Examiner

Thomas J. Brahan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-10, 12 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10, 12 and 1618 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirement of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

3. Claims 2 and 3 are rejected under 35 U.S.C. § 102(e) as being anticipated by Shibata et al. Shibata et al shows a robotic tube handler system comprising:

a robotic tube handler having:

a housing (10) with a perimeter rectangular frame having sides;

a bed (under gripper assembly 42) in the perimeter frame for orthogonal placement of tube racks (32), the bed having a seating structure in which tube racks of identical size seat in a preferred array;

a tube pick-up mechanism having:

a crossbar transport unit with tracks (74 and 76) on two opposite sides of the frame;

a cross beam (68) with two post supports (70 and 72) wherein the cross beam spans the bed and the two post supports engage the tracks;

a transport assembly with a motor and a drive assembly (see column 7, lines 36-39) in engagement with each of the post supports with fore and aft transport of the crossbar transport unit on operation of the motor;

an elevator carriage (66) supported on the cross beam with a transport mechanism having a motor and a drive assembly (again, disclosed at column 7, lines 36-39) in engagement with the cross beam with side to side transport of the elevator carriage on the cross beam on operation of

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the motor;

an elevator assembly (66);

a pick head unit (40) wherein the elevator assembly has a transport mechanism with a motor (80) that vertically displaces the pick head unit on operation of the motor, the pick head unit having an actuatable pick head; and

a controller with a control unit (18) having electronics operationally connected to the drive motors for precision control of X, Y, Z motion of the pick head unit and actuation of the pick head for select engagement and precision transport of tubes in tube racks seated in the bed.

Shibata et al has a sample identification station (at 44) which parks a limited number of tubes (one tube) for identifying and sorting, as recited in claim 3.

4. Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamakawa et al in view of Warren et al. Yamakawa et al shows the basic claimed robotic tube handler with an X, Y, Z transport system, but varies from the claims by not showing the details of the cross beam (shifting means 15) as to have it driven at both ends. Warren et al shows a similar cross beam (20) mounted on side rails (15 and 15') with a post and drive means (14 and 14') at each end. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handling system of Yamakawa et al by providing the cross beam (15) with a drive means at each end, for accurate positioning of the cross beam, as taught by Warren et al. Yamakawa et al includes additional tube holders (7 and 9) which can be used for sorting, as the sorting is only functionally recited, i.e. an intended use, as recited in claim 3.

5. Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Boje et al. Shibata et al shows the basic claimed robotic tube handler system, as detailed above, but varies from the claims by not having a transport mechanism for shifting tubes to other handlers. Boje et al shows a similar system with conveyor (36). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the tube handling system of Shibata et al with a conveyor, for the automatic transfer of tubes to another handler, as taught by Boje et al

6. Claims 2-4 and 10, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Boje et al in view of Warren et al. Boje et al shows a robotic tube handler system comprising a robotic tube handler having a housing with a perimeter rectangular frame having sides (28), a bed (chains 54) in the perimeter frame for orthogonal placement of tube racks, the bed having a seating structure (64) in which standard tube racks seat in a predetermined array and a tube pick-up mechanism (34). The tube pickup mechanism of Boje et al is an X, Y, Z transport unit, but Boje et al varies from the claims by not showing the specifics of the drive mechanism as to have its crossbeam supported at both ends. Warren et al shows a similar cross beam (20) mounted on side rails (15 and 15') with a post and drive means (14 and 14') at each end. It would have been obvious to one of ordinary skill in the art at the time

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the invention was made by applicant to modify the robotic tube handler of Boje et al by having the moving cross beam driven at both ends, for accurate position of the cross beam, as taught by Warren et al. Boje et al has tube housing (carrier 38) which can be used for sorting as functionally recited in claim 3. The carrier (38) is also a shuttle holder having a transport mechanism (conveyor 36) as recited in claim 4. Boje et al marks the trays with bar codes (76), as recited in claim 10

7. Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Weyrauch et al. Shibata et al shows the basic claimed robotic tube handler system, as detailed above. It has a bar code reader at an identification station, but varies from claim 5 by not specifying that the bar code is on the bottom of the tube. Weyrauch et al shows a similar identification station which reads the information off the bottom of the tubes. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to have the bar code reader arranged to read a bar code which is on the bottom of the tubes, as to avoid having to reorient the tube to the reader, as taught by Weyrauch et al.

8. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Weyrauch et al, as applied above to claim 5 and further in view of Hardgrave et al. Shibata et al, as modified, shows the basic claimed robotic tube handler, but varies from claim 7 by using a bar code reader instead of a RFID reader for identifying the tubes. Hardgrave et al shows a similar identification system and teaches that bar code readers and RFID readers are equivalents, see the first paragraph of the summary of the invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handler of Shibata et al by substituting a RFID reader for the bar code reader, as these are art recognized equivalents, as taught by Hardgrave et al.

9. Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Guiremand. Shibata et al shows the basic claimed robotic tube handler, but varies from claim 8 by having the pick head interchangeable with a tube fill unit. Guiremand shows a similar robotic system and teaches uses interchangeable tools, see column 14, lines 3-9. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handler of Shibata et al by arranging the transport mechanism to accept other tools, to increased versatility as taught by Guiremand. Having a tube fill unit as one of the interchangeable tools would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant, as it is a conventional tube handling system tool.

10. Claims 9, 12, 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Ragard. Shibata et al shows the basic claimed robotic tube handler system, but varies from the claims by not having four fingers on the tube pick head. Ragard shows a similar robotic gripper with four fingers. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the

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robotic tube handling system of Shibata et al by forming its pick head with four fingers, as to grip four sides of the tube for better engagement, as taught by Ragard. The fingers of Shibata et al are slender as to fit between the tubes, as recited in claim 12. The fingers of Ragard have cam actuator (82), as recited in claims 16 and 17.

11. Claims 9, 12, 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamakawa et al in view of Warren et al, as applied to claim 2 above, and further in view of Ragard. Yamakawa et al, as modified, shows the basic claimed robotic tube handler system, but varies from the claims by not having four fingers on the tube pick head. Ragard shows a similar robotic gripper with four fingers. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handling system of Yamakawa et al by forming its pick head with four fingers, as to grip four sides of the tube for better engagement, as taught by Ragard. The fingers of Yamakawa et al are slender as to fit between the tubes, as recited in claim 12. The fingers of Ragard have cam actuator (82), as recited in claims 16 and 17.


12. Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Boje et al. Shibata et al shows the basic claimed robotic tube handler system, as detailed above, but does not have bar codes on the trays. Boje et al shows a similar system with bar codes (76) on the trays. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the trays with bar codes, and the handler with a bar code reader, to identify the trays, as taught by Boje et al

13. Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibata et al in view of Ragard, as applied above to claim 17, and further in view of Norris et al. Shibata et al, as modified by Ragard, shows the basic claimed robotic tube handler system, but varies from the claims as Ragard has a cylinder, not a solenoid, as the actuation means for the cam. Norris shows a similar robotic gripper and teaches that pneumatic cylinders and solenoids are equivalent finger actuators, see column 8, lines 38-40. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handling system of Shibata et al by using a solenoid instead of a cylinder to actuate the fingers on the gripper, as these are art recognized equivalents, as taught by Norris et al.

14. Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamakawa et al in view of Warren et al and Ragard, as applied above to claim 17, and further in view of Norris et al. Yamakawa et al, as modified by Ragard, shows the basic claimed robotic tube handler system, but varies from the claims as Ragard has a cylinder, not a solenoid, as the actuation means for the cam. Norris shows a similar robotic gripper and teaches that pneumatic cylinders and solenoids are equivalent finger actuators, see column 8, lines 38-40. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the robotic tube handling system of Yamakawa et al by using a solenoid instead of a cylinder to actuate the fingers on the gripper, as these are art recognized equivalents, as taught by Norris et al.

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15. Applicant's remarks filed May 22, 2006, have been considered, but are deemed moot in view of the above rejections. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Brahan whose telephone number is (571) 272-6921. The examiner's supervisor, Ms. Katherine Matecki, can be reached at (571) 272-6951. The new fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Thomas J. Brahan  
Primary Examiner  
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